EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address:

USGS Pacific Coastal and Marine Science Center
2885 Mission Street
Santa Cruz, CA 95060

Date: 3/7/2019
Jurisdiction: Federal ____ State _X
If State: Permit #PRC 9418
Region: Inland
Area: South San Francisco Bay

GEOPHYSICAL SURVEY PERMIT

Check one: X New survey Time extension of a previous survey

U.S.G.S. Pacific Coastal and Marine Science Center will conduct a geophysical survey inshore San Francisco Bay in the survey area outlined on the accompanying navigation chart segment. If you foresee potential interference with commercial fishing or other activities, please contact the person(s) listed below:

FEDERAL WATERS (outside 3 nautical miles)

1) Applicant's representative:
2) Federal representative: (e.g., Bureau of Ocean Energy Management [BOEM] or National Science Foundation [NSF])

NOTE: Any comments regarding potential conflicts in Federal waters must be received by the Applicant's Representative and lead Federal agency within ten (10) days of the receipt of this notice.

STATE WATERS (Inside 3 nautical miles)

1) Permittee's representative: Tim Elfers
2) CSLC representative: Richard Greenwood

NOTE: Any comments regarding potential conflicts in State waters should be received as soon as possible by the Permittee's representative, no more than fifteen (15) days after the receipt of this notice.

1. Expected Dates of Operation: April 1st - 5h, 2019
2. Hours of Operation: 6am – 6pm (daylight hours only)
3. Vessel Name: R/V Parke Snavely; PWC 1 (Kelpfly), PWC 2 (Mickey)
4. Vessel Official Number: USGS-2001279, US-YAMA3198L708, US-YAMA1957E616

5. Vessel Radio Call Sign: R/VSnavely- WZ3374

6. Vessel Captain's Name: Dan Powers , Jackson Currie, Cordell Johnson

7. Vessel will monitor Radio Channel(s): 13, 16; 82a (PWC)

8. Vessel Navigation System: Differential GPS

9. Equipment to be used:

1. SWATH-Plus Interferrometric Echo Sounder

a. Frequency (Hz, kHz): 234 kHz (R/V Snavely)

b. Source level: (dB re 1 µPa at 1 meter (m) (rms): 200 dB RMS

c. Number of beams, across track beam width, and along track beam width:

1 beam, Phase Differencing Bathymetric Sonar; 360m swath width; 2m along track beam width.

d. Pulse rate and length: 4.5-13.5 pps at 34-500 µ seconds depending on water depth.

e. Rise time: 7 µ seconds

f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 uPa (rms) isopleths,

190 dB: 1M ; 180 dB: 9M ; 160 dB: 50M

These estimates are based on the underwater sound propagation equation:

RSPL= SL-20log (R/Ro)-AR, where

RSPL=received sound potential level

SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications

R= Distance

Ro= Reference Distance (1 m)

A= sound absorption coefficient

g. Deployment depth: 2 m

h. Tow speed: 8 knots

i. Approximate length of cable tow: 0 m.

2. SWATH-Plus Interferrometric Echo Sounder

a. Frequency (Hz, kHz): 468 kHZ (PWC 1 Kelpfly)

b. Source level: (dB re 1 µPa at 1 meter (m) (rms): 200 dB RMS

c. Number of beams, across track beam width, and along track beam width:

1 beam, Phase Differencing Bathymetric Sonar; 360m swath width; 2m along track beam width.

d. Pulse rate and length: 4.5-13.5 pps at 34-500 µ seconds depending on water depth.

e. Rise time: 7 µ seconds

f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 uPa (rms) isopleths,

190 dB: 5M ; 180 dB: 8.7M ; 160 dB: 50M

These estimates are based on the underwater sound propagation equation:

RSPL= SL-20log (R/Ro)-AR, where

RSPL=received sound potential level

SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications

R= Distance

Ro= Reference Distance (1 m)

A= sound absorption coefficient

g. Deployment depth: 2 m

h. Tow speed: 8 knots

i. Approximate length of cable tow: 0 m.

3. Odom Echotrac Bathymetric Echo Sounder (PWC 2)

a. Frequency (Hz, kHz): 200 kHz

b. Source level: (dB re 1 µPa at 1 meter (m) (rms): 93 dB RMS

c. Number of beams, across track beam width, and along track beam width:
1 beam, 9° conical beam. 5m along track, 5m across track

d. Pulse rate and length: 4.5-13.5 pps at 34-500 µ seconds depending on water depth.

e. Rise time: 7 µ seconds

f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 uPa (rms) isopleths,
190 dB: <1M ; 180 dB: <1M ; 160 dB: <1M

These estimates are based on the underwater sound propagation equation:

RSPL= SL-20log (R/Ro)-AR, where

RSPL=received sound potential level

SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications

R= Distance

Ro= Reference Distance (1 m)

A= sound absorption coefficient

g. Deployment depth: 0.25 m

h. Tow speed: 4 knots

i. Approximate length of cable tow: 0

Applicant's Representative:

Tim Elfers
US Geological Survey
2885 Mission Street
Santa Cruz, CA 95060
831-460-7485
California State Lands Representative:

Richard B. Greenwood
Statewide Geophysical Coordinator
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331
(562) 590-5201

BOEM Representative:
Joan Barminski
Chief, Office of Reservoir & Production
770 Paseo Camarillo
Camarillo, CA 93010
(805) 389-7707

Table 1. Bounding coordinates for South San Francisco Bay Survey

North	37° 30.480' N
South	37° 25.335' N
East	121° 58.664' W
West	122° 07.4627' W

Table 2. Start and end points for South San Francisco Bay Survey

	Start		End	
Ln_ID	**Lat**	**Long**	**Lat**	**Long**
DB1	37° 30.180' N	122° 7.270' W	37° 29.797' N	122° 6.865' W
DB2	37° 30.214' N	122° 7.224' W	37° 29.831' N	122° 6.819' W
DB3	37° 30.247' N	122° 7.164' W	37° 29.864' N	122° 6.759' W
DB4	37° 30.289' N	122° 7.107' W	37° 29.906' N	122° 6.702' W
DB5	37° 30.328' N	122° 7.050' W	37° 29.945' N	122° 6.645' W
AV1	37° 27.654' N	122° 3.330' W	37° 26.498' N	122° 1.926' W
AV2	37° 27.661' N	122° 3.314' W	37° 26.505' N	122° 1.910' W
AV3	37° 27.829' N	122° 1.500' W	37° 25.375' N	121° 58.714' W
AV4	37° 27.837' N	122° 1.502' W	37° 25.383' N	121° 58.716' W
AV5	37° 27.773' N	122° 3.180' W	37° 28.009' N	121° 59.823' W
AV6	37° 27.682' N	122° 3.272' W	37° 27.952' N	121° 59.871' W
AV7	37° 27.764' N	122° 3.200' W	37° 28.000' N	121° 59.843' W
AV8	37° 27.740' N	122° 3.187' W	37° 27.976' N	121° 59.831' W
AV9	37° 27.960' N	121° 59.868' W	37° 27.870' N	122° 1.441' W
AV10	37° 27.902' N	122° 1.419' W	37° 28.000' N	121° 59.843' W
AV11	37° 27.971' N	121° 59.859' W	37° 27.915' N	122° 1.332' W
AV12	37° 27.873' N	122° 1.456' W	37° 28.000' N	121° 59.843' W
AV13	37° 27.672' N	122° 3.289' W	37° 27.526' N	122° 2.891' W
AV14	37° 27.668' N	122° 3.304' W	37° 27.503' N	122° 2.926' W
AV15	37° 27.658' N	122° 3.280' W	37° 27.483' N	122° 2.935' W
AV16	37° 27.689' N	122° 3.255' W	37° 27.861' N	122° 1.421' W
AV17	37° 27.700' N	122° 3.251' W	37° 27.870' N	122° 1.441' W
AV18	37° 27.915' N	122° 1.332' W	37° 27.754' N	122° 3.210' W
AV19	37° 27.733' N	122° 3.228' W	37° 27.888' N	122° 1.377' W
AV20	37° 27.718' N	122° 3.241' W	37° 27.679' N	122° 2.325' W
AV21	37° 27.709' N	122° 3.261' W	37° 27.710' N	122° 2.216' W
AV22	37° 27.744' N	122° 3.220' W	37° 27.642' N	122° 2.465' W

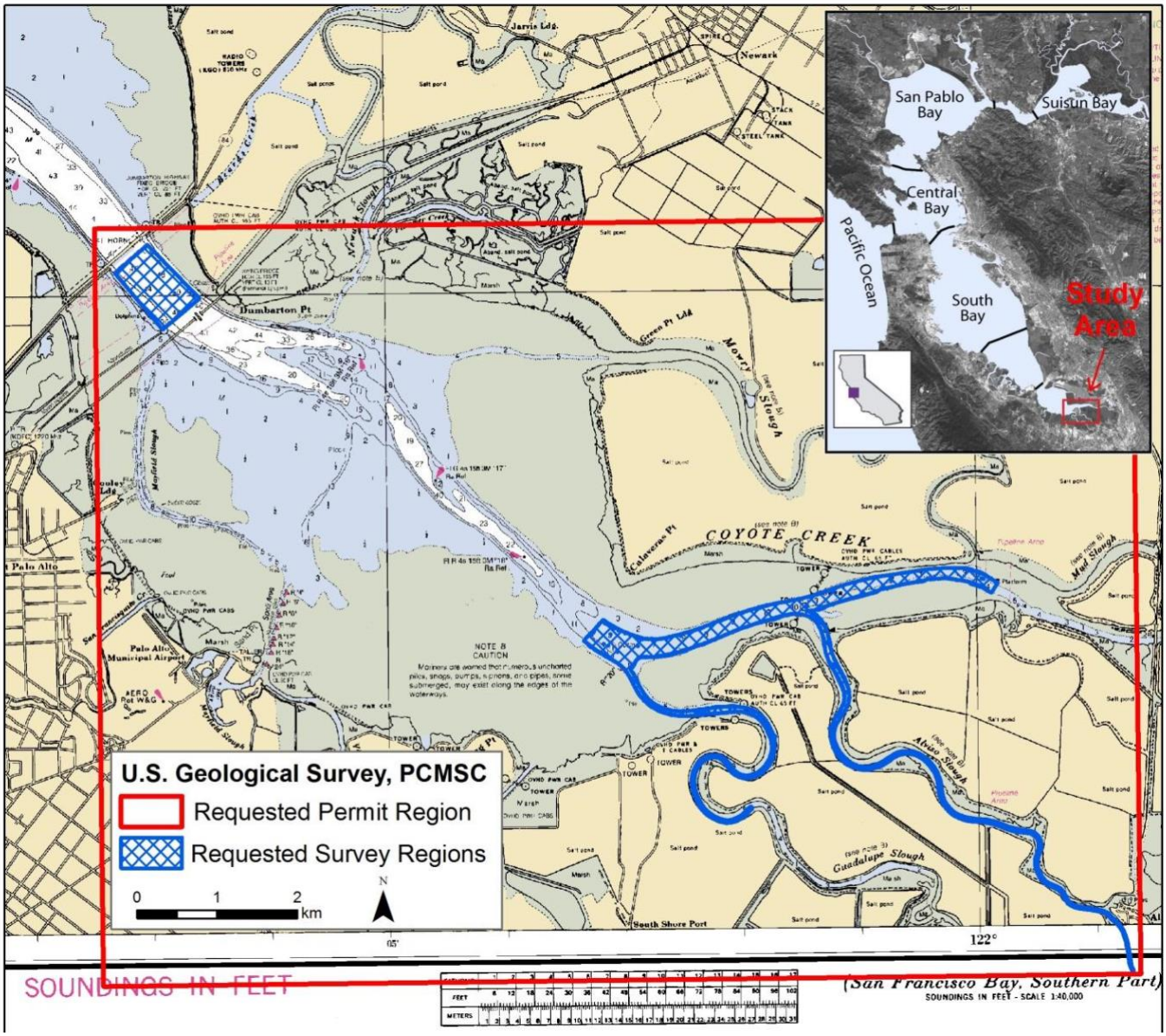
San Pablo Bay
Suisun Bay
Central Bay
Pacific Ocean
South Bay
Study Area
U.S. Geological Survey, PCMSC
Requested Permit Region
Requested Survey Regions
0 1 2 km
N
COYOTE CREEK
Dumbarton Pt
Palo Alto
Palo Alto Municipal Airport
Newark
Jarvis Ldg.
Guadalupe Slough
Mud Slough
Alviso Slough
South Shore Port
NOTE B
CAUTION
122°
SOUNDINGS IN FEET
(San Francisco Bay, Southern Part)
SOUNDINGS IN FEET - SCALE 1:40,000

EXHIBIT G

California State Lands Commission Presurvey Notice Requirements for Permittees to Conduct Geophysical Survey Activities

All parts of the Presurvey Notice must be adequately filled out and submitted to the CSLC staff a minimum of twenty-one (21) calendar days prior to the proposed survey date to ensure adequate review and approval time for CSLC staff. Note that one or more of the items may require the Permittee to plan well in advance in order to obtain the necessary documentation prior to the Notice due date (e.g., permits from other State or Federal entities). Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Yes	No	
X	☐	Geophysical Survey Permit Exhibit F
X	☐	Survey Location (including a full-sized navigation chart and GPS coordinates for each proposed track line and turning point) Explanation:_____
X	☐	Permit(s) or Authorization from other Federal or State agencies (if applicable) Explanation: *California State Lands Permit #9418*
X	☐	21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/
X	☐	U.S. Coast Guard Local Notice to Mariners/
X	☐	Harbormaster and Dive Shop Notifications Explanation:_____
X	☐	Marine Wildlife Contingency Plan Explanation:_____
X	☐	Oil Spill Contingency Plan Explanation:_____
X	☐	Verification of California Air Resources Board's Tier 2-Certified Engine Requirement Explanation:_____
X	☐	Verification of Equipment Service and/or Maintenance (must verify sound output) Explanation:_____
☐	X	Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable). Explanation: *N/A*

._____

NOTE: CSLC staff will also require verification that current biological information was obtained and transmitted as outlined in Section 5 of this permit

Marine Wildlife Mitigation Plan
Marine Geologic Hazards Assessment
Northern San Francisco Bay, CA.

(April 1st to 5th, 2019)

1.1 INTRODUCTION

This marine wildlife mitigation plan is prepared in compliance with the USGS Pacific Coastal and Marine Science Center's existing State Geophysical Permit PRC 9418. This plan is intended to provide guidance to USGS vessel operators and scientific field personnel collecting geophysical data for the Pacific Coastal and Marine Science Center (PCMSC) in Santa Cruz, CA to avoid significant impacts to marine wildlife that may occur during regular geophysical surveys.

1.2 Regulatory Basis

Species that are either currently in danger or soon likely to be in danger of extinction throughout all or a portion of its range are protected by the Endangered Species Act of 1973. The United States Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) implement the Endangered Species Act. During the consultation with NMFS to issue a permit for the offshore geophysical survey, it was determined no incidental take permits are required to use the equipment identified in this document to conduct scientific data acquisition in federal waters offshore of the California coast.

1.3 Geophysical Survey Purpose and Objectives

The U.S. Geological Survey, Pacific Coastal and Marine Science Center will conduct a bathymetric survey in the southernmost end of South San Francisco Bay, along Coyote Creek (from Calaveras Point east to Mud Creek), Alviso and Guadalupe Sloughs, and in the main channel between the Dumbarton Bridge and the old railroad bridge. The survey involves swath-mapping surveys (bathymetry and acoustic backscatter) in order to document changes to the bay floor caused by winter precipitation events and variability in tidal conditions as well as restoration activities conducted as part of the South Bay Salt Pond Restoration Project (http://www.southbayrestoration.org). This study will help determine the scale of natural versus restoration-inducted change and assist restoration managers in minimizing the negative impacts of restoration and aid regional planners working on flood adaptation measures in South San Francisco Bay.

A review of environmental responsibility of project operations will be conducted by the

chief scientist in charge of the survey operations prior to commencing the first day of operations. When new personnel will be in the crew, this training will be repeated at least for those new to the crew. They will be made aware of their individual responsibility and will be shown how to be aware of possible environmental impacts and how to mitigate them during the geophysical survey operations. Information relating to seasonality, as an indication of the types of animals that might be in our survey area, at the time of survey work will also be presented to the crew. A copy of this document will be provided to the crew of our survey vessel.

All personnel will be expected to be consistently aware that they are to be alert to any presence of marine wildlife while they are performing their duties. There are a number of signs/indications of marine wildlife presence and each crew member will be responsible to maintain vigilance for those signs within the constraints of their project duties. Some of those indications are:

a. Sounds - such as splashing, vocalizations (by animals and birds), and blowing (breathing).

b. Visual indications - birds aggregating, changes in water character such as areas of rippled
water, white water caused by splashing, changes in color or shape of the ocean surface,

1.4 Survey Schedule and Layout

The survey is scheduled to commence field activities on April 1st and is expected to conclude April 4, 2019. The survey will be conducted aboard the USGS R/V Parke Snavely and two Personal Watercraft (jet skis), departing and returning daily to the Port of Redwood City and Alviso county park boat ramp (PWC). An image of the survey area is shown in Figure 1. The Survey will be conducted along pre-established track lines and timing is designed to take advantage of recent heavy rainfall along with favorable high tides. Profiles will be collected consistent with standard geophysical survey techniques. The vessel speed for the survey will be around 4.5 nautical miles/hour.

Study area:

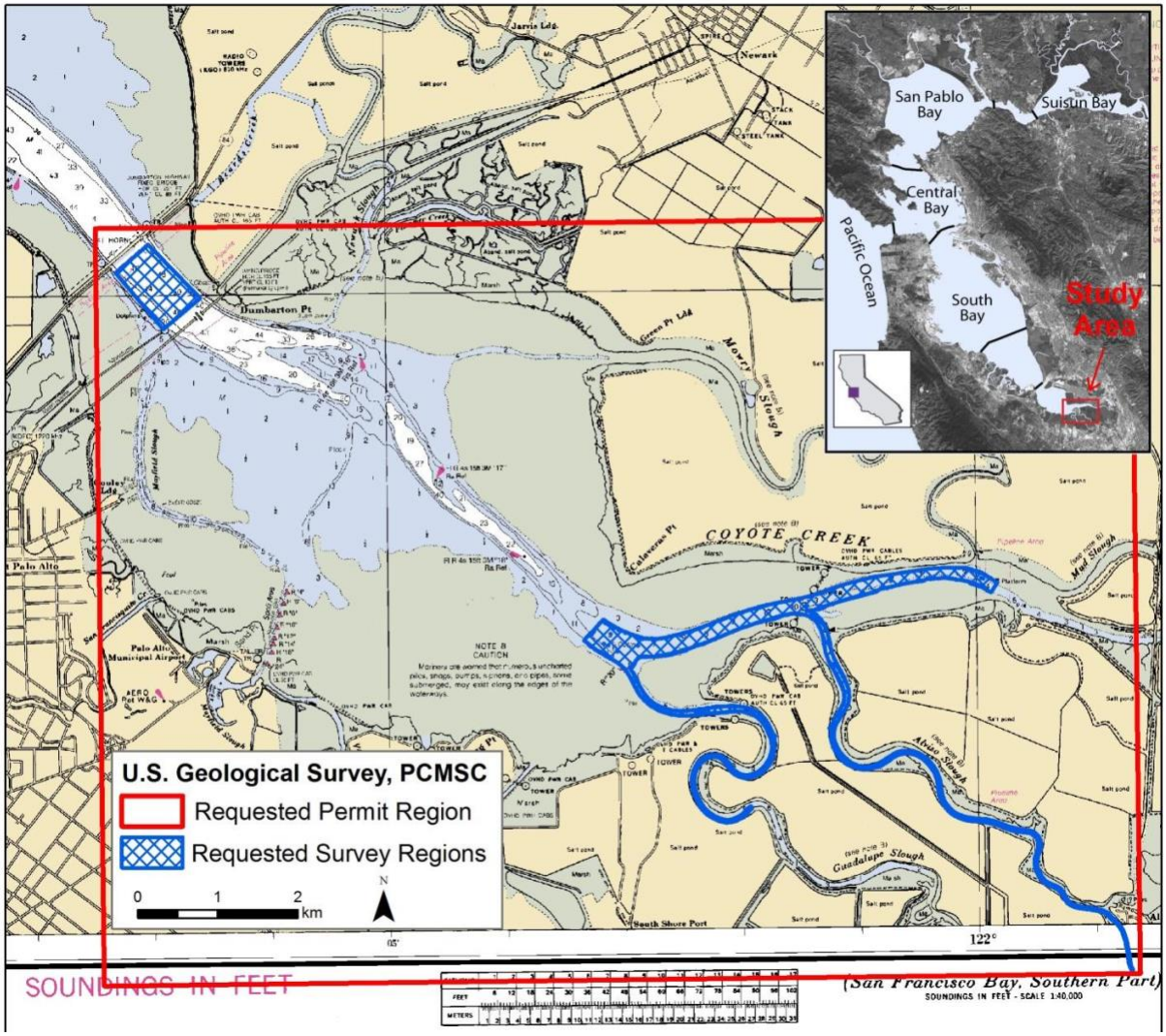

Figure 1. Region of Survey Area. Green lines are survey tracklines

2.0 Survey Equipment and Activities

The survey vessel will be the R/V Parke Snavely, a 36 foot long, aluminum-hulled catamaran owned and operated by USGS PCMSC. Only daylight data collection will be conducted with the vessel returning to Redwood City daily.

PCMSC proposes to use the following equipment to collect the required data:

- 234 kHz SEA Swath Plus Phase Differencing Bathymetric Sonar Echo Sounder

Additional mapping would utilize two USGS Coastal Profiling Systems (CPS), which consist of a personal watercraft instrumented with GPS-based mapping systems and

fathometers. CPS are not operated in high surf (generally greater than 5 feet) or in difficult weather conditions such as fog or rain. All CPS operators are USGS employees, insured, and safety-certified by the U.S. Department of Interior.

PCMSC proposes to use the following equipment to collect the required data:

- 468 kHz SEA Swath Plus Phase Differencing Bathymetric Sonar Echo Sounder
- Odom Echotrac CV100 echo sounder using a 200 kHz, 9° downward conical beam transducer

The proposed survey will require the use of a marine vessel and in-water equipment that generate noise during data acquisition. The results of modeling of the noise generated by the survey equipment is shown in Table 1. Those results indicate that the area within which the 160 dB re: 1µPa rms sound level (the level specified by NOAA as potentially harmful to sensitive marine mammals) can be observed by monitors onboard the survey vessel.

Table 1. Distances to Received Pressure Levels from Equipment Sound Source

Sounder System	Frequency (kHz)	Source Level (dB peak)	Source Level (dB rms)	Distance toSL160 dBrms (meters)	Distance to SL 180 dB (rms) (meters)	Distance toSL190 dB (rms) (meters)
Odom Echotrac CV100 Echo Sounder	200 kHz	109	93	<1	<1	<1
SEA Swath Plus Echo Sounder	234.5 kHz	216	200	50	9	3
SEA Swath Plus Echo Sounder	468 kHz	216	200	50	9	5

These estimates are based on the underwater sound propagation equation:

RSPL= SL-20log (R/Ro)-AR where,
RSPL=Recieved sound potential level
SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications
R= Distance
Ro= Reference Distance (1 m)
A= sound absorption coefficient

The greatest distance from the sound source to the 160 dB level (50 m) for the proposed equipment) is considered the "safety zone" for this equipment. However, because the operating frequency of 245 kHz is above the cutoff hearing threshold for marine mammals, CSLC has determined that the observance of the "safety zones" is not a requirement for this survey (personal communication, K. Keen, CSLC).

3.0 Marine Wildlife

3.1 Marine Wildlife

The following discusses the marine wildlife that have been recorded within California

waters those taxa that are most likely to be within the project region during the survey, and methods that will be instituted by the vessel operator to reduce or eliminate potential impacts to marine wildlife during transit and survey operations. Assigned Marine Wildlife Observers (MWO), the vessel master and others in the vessel wheelhouse will watch for marine wildlife and will institute the aforementioned mitigations.

Table 2 provides information on the seasonal variations in the marine wildlife that are expected to be or have been reported within the Project area.

Table 2: Abundance Estimates for Marine Mammals and Reptiles of California Unless Otherwise Indicated

Common Name *Scientific Name*	**Population Estimate**	**Current Population Trend**
REPTILES		
Cryptodira		
Olive Ridley turtle *Lepidochelys olivacea*	1.39 million (Eastern Tropical Pacific)**	Increasing
Green turtle *Chelonia mydas*	3,319-3,479** (Eastern Pacific Stock)	Increasing
Loggerhead turtle *Caretta caretta*	1,000 (California)**	Decreasing
Leatherback turtle *Dermochelys coriacea*	178 (California)**	Decreasing
MAMMALS		
Mysticeti		
California gray whale *Eschrichtius robustus*	18,017 (Eastern North Pacific Stock)	Fluctuating annually
Fin whale *Balaenoptera physalus*	2,624 (California/Oregon/Washington Stock)	Increasing off California
Humpback whale *Megaptera novaeangliae*	1,878 (California/Oregon/Washington Stock)	Increasing
Blue whale *Balaenoptera musculus*	2,046 (Eastern North Pacific Stock)	Unable to determine
Minke whale *Balaenoptera acutorostrata*	202 (California/Oregon/Washington Stock)	No long-term trends suggested
Northern right whale *Eubalaena japonica*	17 (based on photo-identification) (Eastern North Pacific Stock)	No long-term trends suggested
Sei whale *Balaenoptera borealls*	83 (Eastern North Pacific Stock)	No long-term trends suggested
Odontoceti		
Short-beaked common dolphin *Delphinus delphis*	343,990 (California/Oregon/Washington Stock)	Unable to determine
Long-beaked common dolphin *Delphinus capensls*	17,127 (California Stock)	Unable to determine
Dall's porpoise *Phocoenoides dalli*	32,106 (California/Oregon/Washington Stock)	Unable to determine
Harbor porpoise *Phocoena phocoena*	1,478 (Morro Bay Stock)	Increasing
Pacific white-sided dolphin *Lagenorhynchus obllquldens*	21,406 (California/Oregon/Washington Stock)	No long-term trends suggested
Risso's dolphin *Grampus griseus*	4,913 (California/Oregon/Washington	No long-term trends suggested

	Stock)	
Short-finned pilot whale *Globicephala macrorhynchus*	465 (California/Oregon/Washington Stock)	No long-term trends suggested
Bottlenose dolphin *Turslops truncates*	684 (California/Oregon/Washington Offshore Stock)	No long-term trends suggested
	290 (California Coastal Stock)	No long-term trends suggested
Northern right whale dolphin *Llssopelphis borealis*	6,019 (California/Oregon/Washington Stock)	No long-term trends suggested
Sperm whale *Physeter macrocephalus*	751 (California/Oregon/Washington Stock)	No long-term trends suggested
Killer whale Orcinus orca	85 (Eastern North Pacific Southern Resident Stock)	Decreasing
	162 (Eastern North Pacific Offshore Stock)	No long-term trends suggested
Pinnipedia		
California sea lion *Zalophus californianus*	141,842 (U.S. Stock)	Unable to determine; increasing in most recent three year period
Northern fur seal *Callorhinus ursinus*	5,395 (San Miguel Island Stock)	Increasing
Guadalupe fur seal *Arctocephalus townsendi*	3,028 (Mexico Stock) Undetermined in California	Increasing
Northern (Steller) sea lion *Eumetopias jubatus*	2,479 California Stock	Decreasing
Northern elephant seal *Mirounga angustirostris*	74,913	Increasing
Pacific harbor seal *Phoca vitulina richardsi*	31,600	Stable
Fissipedia		
Southern sea otter *Enhydra lutris nereis*	2,711*	Unable to determine

Estimates provided by National Marine Fisheries Service (NOAA Fisheries 2011) *

Estimate provided by USGS (2010)

** Estimates provided by National Marine Fisheries Service (NMFS) (2004), Marquez, et al. (2002), Eguchi et ai. (2007), Benson et al. (2007), and NMFS (2007). Estimates are based on number of current numbers of nesting females.

During the transit periods, there is a potential for encountering marine wildlife and therefore onboard monitoring will occur. Table 3 lists those species that are likely to occur in California waters.

Table 3. Marine Wildlife Species and Most Likely Periods of Occurrence within the Survey Area

Family Common Name	Month of Occurrence [1]											
	J	F	M	A	M	J	J	A	S	O	N	D
REPTILES												
Cyptodira												
Olive Ridley turtle *(T)* [2]												
Green turtle (T)[1],[2]												
Loggerhead turtle (T) [2]												
Leatherback turtle (E) [2]												
MAMMALS												
Mysticeti												
California gray whale												
Blue whale (E)												
Fin whale (E)												
Humpback whale (E)												
Minke whale												
Sei whale (E)												
Northern right whale (E)												
Odontoceti												
Short-beaked common dolphin												
Dall's porpoise												
Harbor porpoise												
Long-beaked common dolphin												
Pacific white-sided dolphin												
Risso's dolphin												
Sperm whale												
Short-finned pilot whale												
Bottlenose dolphin												
Northern right whale dolphin												
Killer whale												
Pinnipedia												
Northern fur seal [3]												
California sea lion												
Northern elephant seal [4]												
Pacific harbor seal												
Guadalupe fur seal (T)												
Steller sea lion												
Fissipedia												
Southern sea otter (T) [5]												
Relatively uniform distribution		Not expected to occur					Most likely to occur due to seasonal distribution					

(E) Federally listed endangered species.
(T) Federally listed threatened species.
(1) Not Used
(2) Rarely encountered, but may be present year-round. Greatest abundance during July through September.
(3) Only a small percent occur over continental shelf (except near San Miguel rookery, May-November).
(4) Common near land during winter breeding season and spring molting season.
(5) Only nearshore (diving limit 100 feet).
Sources: Bonnell and Dailey (1993), NOAA Fisheries (2011), NCCOS (2007)

4.0 ONBOARD MITIGATIONS

4.1 Fishing Gear Clearance

In addition to submitting the required Notice to Mariners that will advise commercial fishers of pending on-water activities, prior to the start of each survey day, the vessel will traverse the proposed survey corridor for that day to note and record the presence of deployed fishing gear. No survey lines within 30 m (100 ft) of the observed fishing gear will be completed. The survey crew will not remove or relocate any fishing gear; removal or relocation will only be accomplished by the owner or by an authorized California Department of Fish and Game (CDFG) agent.

4.2 Survey Monitoring

At all times during survey activities, at least one designated marine wildlife monitor (MWO) will be present on the vessel. In addition, the vessel masters have experience with marine wildlife monitoring and will observe and announce any sightings. We will make contact with the NOAA Long Beach office and local whale watching organizations prior to commencement of operations to acquire information on the current composition and abundance of marine wildlife offshore and convey sighting data to the vessel crew and MWOs prior to departure. The certification of MWOs is provided in Appendix A.

The onboard monitors will have the authority to require that operations be stopped if a mammal or turtle appears to be negatively affected by the survey activities. The monitors will also have the authority to recommend continuation (or cessation) of operations during periods of limited visibility (i.e. fog) based on the observed abundance of marine wildlife. Periodic reevaluation of weather conditions and reassessment of the continuation/cessation recommendation will be completed by the onboard monitors.

4.3 Mitigations During Transit and Survey

During daily transits, there is a potential for encountering marine wildlife. Onboard monitoring will be conducted by MWO's, the vessel master, and science crew. During transits the vessel will maintain a minimum distance of 100 m from observed animals. If the vessel master observes a marine mammal within the path of the transiting vessel, they will immediately slow the vessel and/or change course in order to avoid contact.

Cetaceans (whales) vary in their swimming patterns and duration of dives and therefore all shipboard personnel will be watchful as the vessel crosses the path of a whale or anytime whales are observed in the area.

If whales are observed during transits, the vessel master will institute the following measures:

- Maintain a minimum distance of 130 m from sighted whales;
- Do not cross directly in front of or across the path of sighted whales;
- When transit directions is parallel to whale path, maintain constant speed that is not greater than the whales speed, or alter transit direction away from whale path;
- Do not position the vessel in such a manner to separate female whales from their calves;
- If a whale engages in evasive or defensive action, slow the vessel and move away from the animal until the animal calms or moves out of the area.

During survey operations, the vessel will maintain survey a speed of 4-5 knots and will maintain a heading that coincides with survey track lines. If marine wildlife is observed within the vicinity of the vessel, the vessel master will take precautions to avoid proximity to marine wildlife (collision), ending and restarting the track line survey if necessary.

If a collision with marine wildlife occurs, the vessel master will document the conditions under which the accident occurred, including the following:

- Location of the vessel when the collision occurred (latitude and longitude);
- Date and time;
- Speed and heading of the vessel;
- Observed conditions (e.g., wind speed and direction, swell height, visibility in miles or kilometers, and presence of rain or fog);
- Species of marine wildlife contacted; and
- Organization, vessel ID and name of master in charge of the vessel at time of accident.

In accordance with NOAA requirements, after a collision, the vessel should stop, if safe to do so. The vessel may proceed after confirming that it will not further damage the animal by doing so. The vessel will then communicate by radio or telephone all details to the vessel's base of operations. The PCMSC Marine Operations Superintendent will contact the Stranding Coordinator, NMFS, Southwest Region, Long Beach, to obtain instructions. Alternatively, the vessel captain may contact the NMFS Stranding Coordinator directly using the marine operator to place the call or directly from an onboard telephone, if available to:

NOAA Southwest Regional Stranding Coordinator

National Marine Fisheries Service
501 West Ocean Blvd, Suite 4200
Long Beach, CA 90802-4213
562-980-4017
Contact: Sarah Wilkin
Email: sarah.wilkin@noaa.gov

It is unlikely that the vessel will be asked to stand by until NOAA or CDFG personnel arrive, however this will be determined by the Stranding Coordinator. According to the MMPA, the vessel operator is not allowed to aid injured marine wildlife or recover the carcass unless requested to do so by the NOAA Stranding Coordinator.

Although NOAA has primary responsibility for marine mammals in both state and federal waters, the CDFG will also be advised that an incident has occurred in state waters affecting a protected species. Reports should be communicated to the federal and state agencies listed below:

Federal	**State**	**State**
Sarah Wilkin, Stranding Coordinator Southwest Region National Marine Fisheries Service Long Beach, California (562)980-4017	Enforcement Dispatch Desk California Department of Fish and Game Long Beach, California (562)590-5132	California State Lands Commission Division of Environmental Planning and Management Sacramento, California (916) 574-1938

4.4 Operational Measures

Operational measures to reduce impacts to marine mammals or turtles will include: 1) soft-start technique, 2) acoustic safety zone radii, 3) slow vessel speeds, 4) avoidance of pinniped haul out sites, and 4) limitations on equipment usage.

a) Soft Start

The soft-start technique will involve initiating the echo sounder at the lowest practical sound level, increasing the output in such a manner as to increase in steps not exceeding approximately 6 decibels per 5-minute period. During this time, MWOs will monitor the safety zone for marine mammal or turtle sightings.

b) Wildlife Monitoring

In the event that a pinniped haul out site is located within 300 m of the survey boundary,

USGS will take the following measures:

- Not approach within 300 m of the haul-out site (consistent with NMFS guidelines);
- Expedite survey activity in this area in order to minimize the potential for disturbance of pinnipeds on land;
- Have the MWM monitor pinniped activity onshore as the vessel approaches, observing and reporting on the number of pinnipeds potentially disturbed;
- Pinniped haul out site locations are given in Table 4.

The vessel will continuously monitor the daily survey area to ascertain the presence, species and location of any marine wildlife is apparent in the intended survey area. The MWO and onboard personnel will be watchful as the vessel crosses this path or anytime whales are observed in the area. The vessel operator shall observe the following guidelines:

- Make every effort to maintain distance from sighted marine mammals and other marine wildlife;
- Do not cross directly in front of (perpendicular to) migrating whales or any other marine mammal or turtle;
- When paralleling marine mammals or turtles, the vessel will operate at a constant speed that is not faster than that of the animals;
- Care will be taken to ensure female whales are not separated from their calves; and, if a whale engages in evasive or defensive action, the vessel will reduce speed or stop until the animal calms or moves out of the area.

c) Vessel Speed

Survey speeds for chirp data acquisition will be approximately 4 to 5 knots for maximum data accuracy and data quality.

d) Limitations on equipment usage

Limitations on the frequency, pulse length, and pulse rate will be implemented to reduce potential harmful noises. For the chirp sub-bottom profiler, the highest frequency band possible will be used and the shortest possible pulse length and lowest pulse rate (pings per second) will be used.

Table 4 Pinniped Haul Out Locations

LOCATION	SPECIES	LATITUDE	LONGITUDE
Coyote Creek, S. SF bay	Harbor Seal	N 37.46	W -122.03

4.5 Monitoring Reporting

A Post Survey Field Operations and Compliance Report will be submitted to CSLC staff as soon as possible but no more than 30 days after the completion of survey activities.

APPENDIX A: MARINE WILDLIFE OBSERVER CERTIFICATIONS

Since 2006, the USGS Pacific Coastal and Marine Science Center has provided trained marine mammal observers in support of low power geophysical surveys in California State Waters and Federal Waters under NOAA National Marine Fisheries (NMFS) jurisdictions. These surveys have been conducted under permit authorizations from California State Lands Commission (CSLC) (Permit# PRC 8394) and various NMFS Incidental Harassment Authorizations (IHAs) and Letters of Concurrence. PCMSC has provided training for 136 of their staff research scientists and science and technical support staff as marine wildlife observers (MWO) to support our geophysical surveys and meet our marine mammal mitigation obligations under pursuant to our CSLC and NMFS permit requirements.

The MWO training for our science and technical support staff is provided by Dr. James Harvey, a Professor of Marine Science at MLML and the Interim Director of MLML. Jim has taught courses on the biology and ecology of marine turtles, birds, and mammals for 22 years. Jim has also advised more than 70 graduate students as they obtained their M.S. degree, and has all of the instructional material (handouts, identification manuals, slides, video, etc.) for teaching this workshop.

The training has been conducted during several 2 day workshop at Moss Landing Marine Laboratories on the identification of marine mammal species, including handouts, slides, and video. All species of marine mammals in the area of planned USGS activities were discussed, their status and trends, and identifying features that allow species identification, and possibly differentiation between sexes and age classes. The workshop participants were instructed in the "normal" behaviors of marine mammals using visual explanations, slides, and video. A typical data sheet was prepared and participants were instructed how they would complete the data form. The rationale for the need for trained observers and importance of the data was emphasized. This training concluded with an observational cruise aboard an MLML vessel on Monterey Bay to observe the marine mammals discussed in the course in their natural setting and receive identification tips and other information in a field setting similar to that which they would expect during science operations.

PCMG Certified Marine Mammal Observers

Observer Name	**Staff Position**
Alicia Balliser-Gee	Science Support
Ginger Barth	Research Scientist
Jayne Bormann	Science Support
Daniel Brothers	Research Scientist
Katherine Coble	Research Scientist
Guy Cochrane	Research Scientist
Jamie Conrad	Research Scientist
Peter Dartnell	Science Support
Dan Powers	Science Support - Vessel Master
Theresa Fregoso	Science Support
Observer Name	**Staff Position**
Steven Hartwell	Science Support

Patrick Hart	Research Scientist
Sam Johnson	Research Scientist
Simon Klemperer	Research Scientist
Sean Paul LaSelle	Science Support
Tom Lorenson	Science Support
Brent Lunghino	Science Support
Tom Parsons	Research Scientist
Carol Reiss	Science Support
Ray Sliter	Science Support
Mike Torresan	Science Support
Peter Triezenberg	Science Support
Steve Watt	Research Scientist
Janet Watt	Research Scientist
Jenny McKee	Science Support - Vessel Master
Jeff Beeson	Science Support

U.S. GEOLOGICAL SURVEY
PACIFIC COASTAL AND MARINE GEOLOGY SCIENCE CENTER

MANAGEMENT OF ACCIDENTAL DISCHARGE AND VESSEL INCIDENTS DURING OFFSHORE GEOPHYSICAL SURVEYS

1.0 INTRODUCTION

The survey operations will be conducted aboard the USGS Research Vessel Parke Snavely, a 36 foot aluminum catamaran powered by twin Volvo Penta diesel engines. Because of the vessel's relatively small size, it is anticipated that response to any operational spills will be quickly identified and response will be initiated quickly and efficiently by the vessel master and on board designated vessel crew. At the initiation of each project or project phase, a spill management review will be conducted by the vessel master who is in all cases the responsible authority. For both the catamaran and the personal watercraft, oil spills in United States (U.S.) marine waters shall be reported immediately.

2.0 OPERATIONAL SPILLS

For the jet skis: Operational spills might involve one or more of the following substances carried on board the vehicles: (i) fuel and (ii) lube oil. The vehicles are equipped with woven polypropylene sheets (5 sheets) for rapid absorption of surface oil and protective gloves (1 pair), and a disposal bag (1) This oil spill materials are located in saddle bags on the side of the vehicle. This spill kit is rated to clean up .25 gallons of liquid. All of the liquids (listed below) that could cause a hazardous spill are either in the fuel tank or in the vehicle engine. Spill occurrence will likely be during fueling, in the event of grounding or if any instance occurred that punctured the gas tank. In the event a spill occurred in the engine compartment, the oil spill kit would be used to contain the hazardous liquids and the bilge would not be emptied until it could be pumped out at a hazardous waste facility. We do not anticipate a spill of greater than .25 gallons.

For the R/V Parke Snavely: Operational spills might involve one or more of the following substances carried on board the vessel: (i) fuel; (ii) lube oil; (iii) hydraulic oil; or (iv) waste oil. The vessel is equipped with a Buffalo Quick-Response Oil Spill Kit, which includes socks for fast spill containment (three 4" socks), woven polypropylene sheets (15 sheets) for rapid absorption of surface oil and protective gear, protective gloves (1 pair), disposal bag (1), and a set of instructions. This oil spill kit is located in the forward cabin of the vessel. This spill kit is rated to clean up 5 gallons of liquid. All of the liquids (listed below) that could cause a hazardous spill are either in the fuel tank or are located in the aft deck engine maintenance compartment of the vessel. Thus, if a spill occurred, these would be contained in the engine or maintenance compartments or, or if a grounding or instance occurred that punctured the gas tank, this would leak into the water, which is beyond the scope of our cleanup efforts. In the event a spill occurred in the engine compartment, the oil spill kit would be used to contain the hazardous liquids and the bilge would not be emptied until it could be pumped out at a hazardous waste facility. We do not anticipate a spill of greater than 5 gallons.

(i) Fuel:

A spill kit shall be available for use in the event of a spill. If the fuel is spilled on the deck, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(ii) Lube oil:

A spill kit shall be available for use in the event of a spill. If the oil is spilled on deck or in the machinery space, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(iii) Hydraulic oil:

A spill kit shall be available for use in the event of a spill. If the oil is spilled on deck or in the machinery space, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(iv) Pipe leakage:

The vessel master shall check the piping and rubber hose daily for leakage. Where leakage is found, it shall be repaired immediately, in the event of leakage, the vessel deck engineer shall secure valve(s) at the appropriate tank before repairing the leak. Spilled fuel on the vessel shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

3.0 EMPLOYEE TRAINING ON OIL SPILL CONTINGENCY PLAN

Prior to the launching of the vessel for any activities, all captain and crew members on the vessel will have read the Oil Spill Contingency Plan, understand procedures to be implemented in the event of an oil spill, and know where the oil spill kit is located on the vessel.

4.0 VESSEL FUELING

All vessel fueling will be conducted at an approved docking facility. No cross vessel fueling will be performed. Appropriate spill avoidance measures during filling procedures will be observed. Refueling of the CPS is not allowed at the shoreline unless there is a compelling reason to do so and sufficient spill response equipment to address a spill is on site (i.e., sorbent and containment materials equal to approximately one-third the capacity of the fuel tank)

5.0 PRIORITY ACTIONS TO ENSURE PERSONNEL AND VESSEL SAFETY

Safety of vessel personnel and the vessel are paramount. In the event that a crewman's

injuries require outside emergency assistance, the PCMSC safety officer shall be contacted immediately and emergency personnel contacted. While awaiting emergency assistance, the on board vessel master or qualified vessel crew personnel will render first aid and/or CPR. The nearest emergency medical facilities for this area is:

Sequoia Hospital
170 Alameda de las Pulgas,
Redwood City, CA 94062
(844) 230-4272

6.0 MITIGATING ACTIVITIES

If safety of both the vessel and the personnel has been addressed, the vessel master shall care for the following issues:

- Assessment of the situation and monitoring of all activities as documented evidence.
- Care for further protection of the personnel, use of protective gear, assessment of further risk to health and safety.
- Containment of the spilled material by absorption and safe disposal within leak proof containers of all used material onboard until proper delivery ashore, with due consideration to possible fire risk.
- Decontamination of personnel after finishing the cleanup process.

All personnel shall refer to the MSDS's on board for additional information.

7.0 EMERGENCY CONTACTS FOR STATE AND FEDERAL AGENCIES

Emergency numbers for U.S.C.G. for the San Francisco and Central Coast Areas are:

Pacific SAR Coordinator - Alameda: 510-437-3700

Rescue Coordination Center, Alameda: 510-437-3700

Any oil spill in U.S. marine waters shall be reported immediately to the following state and agencies:

West Coast Oil Spill hot-line	800-OELS-911, *or*
Department of Fish and Game CalTIP	888-CFG-CALTip
(Californians Turn In Poachers & Polluters)	(888-334-2258). *and*
U.S. Coast Guard National Response Center	800-424-8802
California Office of Emergency Services (OES)	800-OILS-911 or 800-852-7550.

During the phone call, the following information will be given over the phone.

a. Name and telephone number of caller.
b. Spill location
c. What was spilled (oil, gas, diesel, etc.)
d. Estimated size of spill
e. The date & time spill was identified (same day).
f. Any oiled or threatened wildlife
g. Source of spill, if known
h. Activity observed at the spill site

After taking the necessary actions, the spill will be reported in writing to the Governor's Office of Emergency Services on their forms.

Additionally, California Department of Fish and Game certified wildlife rescue/response organizations will be contacted about the spill. In the Southern California area, these include the following contacts:

Oiled Wildlife Care Network
1-877-UCD-OWCN

Animal Advocates
323-651-1336

California Wildlife Center
310-458-9453

South Bay Wildlife Rehab
310-378-9921

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2018 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **AB Volvo Penta**
(U.S. Manufacturer or Importer)

Certificate Number: JVPXN05.5DAE-001

Effective Date: 12/27/2017

Expiration Date: 12/31/2018

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 12/27/2017

Revision Date: N/A

Model Year: 2018
Manufacturer Type: Original Engine Manufacturer
Engine Family: JVPXN05.5DAE

Mobile/Stationary Indicator: Mobile
Limited Application:
Intended Service: Propulsion and Auxiliary
Aftertreatment Device Indicator: No
Intended Service Fuel: Diesel

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 1042, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following marine engines, by engine family, more fully described in the documentation required by 40 CFR Part 1042 and produced in the stated model year.

This certificate of conformity covers only those new marine compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 1042 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 1042.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR Part 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 1042. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 1042.

This certificate does not cover marine engines sold, offered for sale, introduced, or delivered for introduction into commerce in the U.S. prior to the effective date of the certificate.

Elfers, Timothy <telfers@usgs.gov>

PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY - harbor masters

1 message

Elfers, Timothy <telfers@usgs.gov> Mon, Mar 11, 2019 at 2:42 PM
To: portofrc@redwoodcityport.com, jmerlo@smharbor.com
Cc: "Keen, Kelly@SLC" <Kelly.Keen@slc.ca.gov>, "Joanne C. Ferreira" <jferreira@usgs.gov>

PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY

The USGS Pacific Coastal and Marine Science Center (PCMSC) will be conducting a 4-day geophysical survey in south San Francisco bay, near Alviso, CA under California State Lands Permit #9418.

Operations will include a high-resolution swath bathymetric survey using a pole mounted 234 kHz SEA SwathPlus echo sounder on the USGS research vessel Parke Snavely, a 36-foot aluminum catamaran and two personal watercraft, one equipped with a 200 kHz single beam echo sounder and one equipped with a pole mounted 468 kHz kHz SEA SwathPlus echo sounder. The survey will be conducted between April 1st to 4th, weather permitting.

In keeping with our California State Lands Permit requirements, we are providing you with the attached Geophysical Pre-Survey Notice for your information.

--
Tim Elfers

Marine Operations Manager
U.S. Geological Survey
Pacific Coastal Marine Science Center

Marine Facility
2831 Mission St
Santa Cruz, CA 95060

831-460-7479 office
831-332-9665 cell
831-421-9209 fax

Exhibit F South San Francisco Bay - Alviso 2019.pdf
588K

Elfers, Timothy <telfers@usgs.gov>

PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY - Geophysical Coordinator

1 message

Elfers, Timothy <telfers@usgs.gov> Mon, Mar 11, 2019 at 2:38 PM
To: "Keen, Kelly@SLC" <Kelly.Keen@slc.ca.gov>, Richard Greenwood <richard.greenwood@slc.ca.gov>, "SLCOGPP@SLC" <slc.ogpp@slc.ca.gov>, D11LNM@uscg.mil
Cc: "Joanne C. Ferreira" <jferreira@usgs.gov>

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Tim Elfers

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Exhibit F South San Francisco Bay - Alviso 2019.pdf
588K

Elfers, Timothy <telfers@usgs.gov>

PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY - dive shops

1 message

Elfers, Timothy <telfers@usgs.gov> Mon, Mar 11, 2019 at 2:44 PM
To: Info@mdcscuba.com, diving@pinnaclesdive.com
Cc: "Joanne C. Ferreira" <jferreira@usgs.gov>, "Keen, Kelly@SLC" <Kelly.Keen@slc.ca.gov>

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